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FURTHER NOTES ON SEED PRODUCTIVITY OF CHESTNUT OAK IN SOUTHERN NEW JERSEY

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In 1934, Wood ** advanced the theory with respect to chestnut oak (Quercus montana, Willd.) that certain trees might show a definite periodicity in seed crops, while others, comparable in size and age, might produce little or no seed in any year. The 10-year record of two trees in Wood's study are here presented.

The stand in which these trees are located is on the northwestern edge of the Pine Barrens at Camp Ockanickon, Burlington County, New Jersey. Both trees are the same age, probably of sprout origin, and are located approximately four chains apart. Tree #4, 9.2" in diameter, is 0.6" larger than tree #22, and possibly less vigorous. Otherwise, as Wood pointed out, there does not seem to be any apparent reason why there should be a difference in productivity.

In this study a count of the mature acorn cups, rather than actual acorns, was used because rodents may remove the acorns before they can be counted, but do not disturb the cups. The following table summarizes the data:

Summary of Acorn Cup Counts

Year	Tree #22	Tree #4
	Number of Cups	
1928 (20 sq.ft. only)	67 (2010)	8 (282)
1929	No count made	
1930 (Entire crop)	926	53
1931 " "	34	0
1932 " "	509	0
1933 " "	107	0
1934 " "	805	0
1935 " "	63	0
1936 " "	1197	18
1937 " "	66	20
1938 " "	697	16
Yearly average of entire crop	641.4	38.9

*In cooperation with the University of Pennsylvania

**Wood, O.M. 1934. A brief record of seed productivity for chestnut oak in southern New Jersey. Jour. Forestry, 32: 1014-1016.

In 1928 the count was made on only 20 square feet under each tree. The figures in parentheses give the estimated total crop, obtained by a comparison of the total area of crown projection with the area on which the actual count was made. These figures are probably too high, but suffice to show that there was a good crop in 1928. No count was made in 1929, but since that time the entire crop under each tree has been counted.

The records from these two trees, although not worthy of generalization, tend to substantiate Wood's theory. Tree #22, known as a good seed producer, periodically has yielded a good seed crop at 2-year intervals, with poorer crops in the intervening years. The other tree has never produced a good crop.